



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,876	06/05/2001	Ajit Kumar Reddy	Reddy 1	5997
46363	7590	11/21/2005	EXAMINER	
PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			BURD, KEVIN MICHAEL	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. <input checked="" type="checkbox"/>	Applicant(s)	
	09/874,876	REDDY, AJIT KUMAR	
	Examiner	Art Unit	
	Kevin M. Burd	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-10,12-14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 3-9 is/are allowed.
- 6) ☒ Claim(s) 10,12-14 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. This office action, in response to the remarks filed 9/8/2005, is a final office action.

Response to Arguments

2. The previous objection to claim 16 is withdrawn.
3. Applicant's arguments, see the remarks on pages 7-11, filed 9/8/2005, with respect to the rejections of claims 1 and 3-9 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejections of these claims have been withdrawn. Applicant's arguments with respect to the rejections of claims 10, 12-14 and 16 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the plurality of vector registers, vector arithmetic units and the processing of the real and imaginary signal components in parallel) are not recited in the rejected claims 10, 12-14 and 16. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant states, in page 11 of the remarks, that the Applicant's disclosed prior art and Balakrishnan cannot be operatively combined because the Applicant's disclosed prior art expects to receive the in-phase and quadrature signals in parallel. The

Art Unit: 2631

examiner disagrees. Figure 11 shows the real and imaginary signals being received in parallel.

For these reasons and the reasons stated in the previous office action, the rejections of claims 10, 12-14 and 16 are maintained and restated below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10, 12-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the instant application's disclosed prior art in view of Balakrishnan et al (US 6,611,567).

Regarding claim 10, the instant application's disclosed prior art shows a method for using an encoder in figure 1. The encoder includes a constellation mapper (generator) 130 that is responsive to an input bit stream to produce an impulse comprising an in-phase and a quadrature component (page 1, lines 26-30). A pair of filters 140, 150 (vector arithmetic structures – VAS) adapts a respective one of in-phase or quadrature components to produced shaped components (page 1, line 31 to page 2, line 1). The outputs are combined 160 to produce an encoded bit stream (page 2, lines 1-4). The prior art does not disclose the VAS comprises a plurality of vector registers and a vector arithmetic unit (VAU). Balakrishnan discloses a method and apparatus for

Art Unit: 2631

pulse shaping. Registers store the data from table 1 and table 2 (column 3, lines 55-63; column 4, lines 17-28 and column 5, lines 8-17). These coefficients are used to shape the pulses (column 4, lines 30-42). An arithmetic unit is used to shape the pulses (column 2, lines 30-50). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the pulse shaper of Balakrishnan with the encoder of the instant application's disclosed prior art. This pulse shaper greatly simplifies the circuit complexity and reduces the amount of power consumed by performing relatively few mathematical operations (column 2, lines 21-28).

Regarding claim 12, the coefficients are added to the received value (column 11, lines 46-56).

Regarding claim 13, Balakrishnan discloses this pulse shaper greatly simplifies the circuit complexity and reduces the amount of power consumed by performing relatively few mathematical operations (column 2, lines 21-28).

Regarding claim 14, the constellation of symbols comprises pulse code modulated symbols (instant, page 1, lines 13-16).

Regarding claim 16, the outputs are combined 160 to produce an encoded bit stream (instant, page 2, lines 1-4).

Allowable Subject Matter

5. Claims 1 and 3-9 are allowed.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Vannatta et al (US 5,930,299) discloses the encoder shown in figures 4 and 10. The encoder comprises generating in-phase and quadrature components of an input signal and a pair of ALU and accumulator circuits to produce respective shaped in-phase and quadrature components.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Friday 9 am - 5 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone

Art Unit: 2631

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin M. Burd
11/17/2005


KEVIN BURD
PRIMARY EXAMINER